

ABSTRACT

Using inhomogeneous sized liquid crystal (LC) droplets for lens and prisms. For forming a positive lens, the LC droplet size can gradually increase from the center to the side edges. For forming a negative lens, the LC droplet size can gradually decrease from the center to the side edges. The lens can be created by Ultra Violet light exposure to patterns. The lens can be tuned by applying voltage to the droplets. The inhomogeneous droplets can also be used in Fresnel lens and prisms. Applications of the invention can be used for eyeglasses, arrays, camera type zoom lenses and beam steering applications.